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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,604	01/31/2002	Bradley Mells	6634-82775	3435

7590

06/03/2003

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EXAMINER

CONNOLLY, PATRICK J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/062,604

Applicant(s)

MELLS, BRADLEY

Examiner

Patrick J Connolly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-38 is/are allowed.
- 6) ☒ Claim(s) 39-54 is/are rejected.
- 7) ☒ Claim(s) 55-61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 39-51, 53 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 39-51 are structured so as to claim an apparatus. The bodies of the claims however, are specific to method steps. As such these method steps fail to sufficiently limit the apparatus claimed.

Claim 53 recites the limitation "optical resonator" in line 4. There is insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 52 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,305,134 to Tsushima et al.

As to claim 52, Tsushima et al discloses an apparatus for detecting a frequency of an optical signal within a communications channel including (see Figure 1):

a stabilized laser (7);

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a photodetector (9); and

an analyzer (11).

It is noted that the recitation “adapted to” is not given patentable weight, as it does not further limit that apparatus as claimed.

*Allowable Subject Matter*

Claims 55-61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 55, the prior art of record, taken alone or in combination, fails to disclose or render obvious an apparatus for detecting a frequency of an optical signal within a communications channel including a resonator adapted to generate the harmonics of the free spectral range as a series of spectrally offset reference optical frequencies, in combination with the rest of the limitations of claim 55.

Claims 1-38 allowed.

The following is an examiner’s statement of reasons for allowance:

As to claim 1, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method of detecting a frequency of an optical signal including: providing a first optical carrier frequency locked to a mode of a resonator of known free spectral range; providing a reference resonator of known free spectral range differing from first resonator; and measuring a beat frequency difference signal comprised of a mixing of the reference and carrier frequencies, in combination with the rest of the limitations of claim 1.

As to claim 10, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method of detecting a frequency of an optical signal including: defining a carrier frequency grid; defining a reference frequency grid; and measuring a beat frequency difference signal comprised of a mixing of the reference and carrier frequencies, in combination with the rest of the limitations of claim 10.

As to claim 39, the prior art of record, taken alone or in combination, fails to disclose or render obvious an apparatus for detecting a frequency of an optical signal including: providing a first optical carrier frequency locked to a mode of a resonator of known free spectral range; providing a reference resonator of known free spectral range differing from first resonator; and measuring a beat frequency difference signal comprised of a mixing of the reference and carrier frequencies, in combination with the rest of the limitations of claim 39.


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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Connolly whose telephone number is 703.305.4397. The examiner can normally be reached on 9 am-5.30 pm ... Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703.308.4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703.746.7722 for regular communications and 703.746.7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0956.

pjc   
May 21, 2003

  
Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2800